THE WESTERN FARMER,

DEVOTED TO AGRICULTURE, HORTICULTURE, AND RURAL ECONOMY.

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Importance of Agriculture.

The most solid wealth of the country is in the land—and by the better improvement of the land, it is difficult to say to how great an extent the *general* wealth may be augmented. How much the wealth of each farmer may be increased also, it is equally impossible to determine. This, at any rate, we may be sure of, that the more a general spirit of observation, and a zeal for improvement, is spread among the farmers, the more likely is this desirable object and this sort of honest long-wearing riches to be obtained.

Ingenious fine spun theories are not half so much wanted by our husbandmen as facts and practical observations. This, however, we laid before our readers in our last number. We look forward with hope that these facts and observations will be furnished us, both by the most literary, as well as the plainest of our farmers. The communications of some of these latter might require slight corrections, but generally their knowledge is more judicious and useful than the speculations of even the greatest scholars. One great obstacle to the usefulness of agricultural papers, and one that is hard to overcome, is the reluctance of practical men to communicate the results of their experience. Improvement will be hastened much more by publishing what the best farmers *do*, than what the best scholars *think*. By making public the best practice of the best farmers, we shall be enabled to do more good than by a thousand ingenious speculations of untried experiments; not that we would be understood to discard entirely the suggestions of men who found their conclusions upon well established scientific principles—these, tested on a prudent scale, sometimes turn out highly valuable, and we shall be happy to find space for them—but what we mean to advance here is, that we shall mainly depend upon the farmers themselves to give value and solidity to the Western Farmer. We therefore again earnestly invite our friends and subscribers to assist us as far as they can in writing for our publication, which we intend to plant on a firm and permanent basis in this city, provided we can obtain only sufficient encouragement to pay the *expenses* of our work. It seems highly desirable that one agricultural paper, at least, should obtain a footing in this vastly increasing neighborhood, and we will cheerfully devote our time, and humble talents, and knowledge, to such an object, although we now obtain no profit from it, and do not expect it for some time to come, if ever.

Book Farming.

Considering the unfortunate prejudice that exists in the minds of many, against receiving instruction from books, on the subject of agriculture and gardening, we are very desirous of presenting to the farming community much valuable information in a less distrustful

shape, *coming directly from the practical cultivators of the soil.* It is, no doubt, owing, in some measure, to the existence of this prejudice against what are termed book farmers, or in other words, against scientific farming, that so many of our most enlightened and enterprising agriculturists withhold from the public the beneficial results of their labors. This ought not to be so. Who, more than the cultivator of the soil, requires the light of knowledge to guide him in his arduous duties, to give confidence to action and a successful result to his labors? We have our schools and colleges, learned professors, and extensive libraries, to qualify our young men for the learned professions, while the humble votary of agriculture, whose art contributes more to the support of society than all the other arts united, and more than any other requires the aid of science, is left to feel his way in the dark, with nothing to guide him but vague conjecture or blind tradition. Hardly a town in the United States which has not its social library, filled with books giving instruction upon any subject but that of agriculture, while nine tenths, if not ninety-nine hundredths of its readers are, to a greater or less extent, cultivators of the soil. Almost every village in the state has its lyceum, and its lyceum lectures, and yet how seldom do farmers, who constitute a great majority of the hearers, get from these sources any information on a subject, which is not only most interesting to them, but to the whole community? They listen with profound attention, and are no doubt much edified, with descriptions of the exact dimensions of the pyramids of Egypt, or the crusades of Peter the Hermit, while the subjects most intimately connected with their every day occupation, such as the composition, structure, and mode of treating the different kinds of soils, the method of producing and applying the various kinds of manures, the best mode of renovating and improving their worn out fields, rotation of crops, and the numerous branches of science and vast field of knowledge immediately connected with agriculture, are seldom if ever touched. In order then to provide, in our humble sphere, for the prejudice that exists among farmers in general, against any kind of information reaching them in any other way than through the medium of actual practical proof, *fresh from the soil itself*, and not through the secondary channels of learned colleges, schools or societies, or scientific persons, we again and again entreat our farmers to send us communications on as many important points, however trivial they may appear individually, as may come to their knowledge in the course of their agricultural practice.

Stirring the Ground.

One of the greatest neglects of farmers is not paying a due regard to the *thorough preparation of the ground* for crops. The trouble and expense of so doing, too often induces them to attend to this very important work imperfectly—not reflecting that they will be amply repaid for their labors, in a larger produce. This subject formed the chief consideration of one of the most eminent practical and scientific agriculturists that England has ever produced, (Tull,) who wrote a valuable work upon the subject, called "Tull's System of Husbandry." His favorite measure was complete pulverization of

the soil. It is not pretended, however, but that this idea of Tull was somewhat too enthusiastically pursued by him, particularly as it led to too close a dependence upon this plan, to the exclusion of other means by manures, to effect the object of a loose and consequently fruitful condition of the land. That this system greatly increases the fertilizing qualities of the earth, every farmer who has the least experience in his art cannot have failed to notice; but there can be no reason why we should pursue it with so much refinement, as not to avail ourselves of all the other methods which are usually pursued to keep up and improve the fertility of our farms. There can be no doubt, but that by working the land by ploughing, spading, hoing, harrowing, raking, &c. as much as time and circumstances will allow us, it exposes it to the influence and effects of the atmosphere. This state of the soil has various advantages: the roots of plants penetrate it with more readiness and greater facility; it admits of the particles of mosture more equally, and in a more extensive manner, by which the fibrous roots of the crops are more fully supplied with nourishment; it also produces a more equal and regular mixture of the different materials of which the soils are composed, so as to yield the food for plants in a more abundant manner. By this fineness in the particles of the soils, the manures, or other ameliorating substances, are more perfectly blended and incorporated with them, and of course a more equal and abundant supply of nutritious materials provided for the growth and increase of the crops, of whatever kind they may be. Fall ploughing has a very beneficial effect in this respect, particularly in heavy clays; and indeed all soils are improved by the influences of the frost und atmosphere of winter. The land should of course be again ploughed up in the following spring. It is not, however, generally advisable to plough up sod in the fall, on account of the cutworm, as by delay in ploughing that kind of land till spring, the worms are more likely to feed on the newly buried grass, than on the growing crop. And here we would strongly recommend the using a pretty heavy roller on sod just turned up in the spring, as the sod being closely pressed down, undergoes a more quick decomposition, thereby furnishing immediate nourishment to the advancing plants. Where ground cannot be conveniently ploughed up in the fall, two ploughings in the spring will go very far to answer the purpose, and the labor will seldom be thrown away except on very new land. We will close this article, by saying to our brother farmers, plough often, plough deep, and stir the ground as much as possible.

Fruit and its Benefits.

When it is considered how healthy and delicious good and ripe fruit is to persons of almost all ages used in any degree of moderation, how natural it is to the human constitution, and how purifying and cooling to the system, it is a matter much to be regretted by the well-wisher of mankind, that it is not raised in greater abundance than it is, and used more than it is as a refreshment both between and at meals, to the exclusion of all fermented liquors, as well as a great deal of animal food. It is a pleasure to the observer of city morals to perceive, that within these last two or three years, some conside-

rable change has taken place already in Cincinnati in this respect; fruit stores have taken the place of "coffee houses," in a great measure, and it is not impossible that we may live to see the time when the wearied mechanic and laborer, instead of the use of stimulating drinks in the heat of summer, shall refresh his exhausted powers with a dish of strawberries, raspberries, blackberries, currants, gooseberries, cherries, peaches, &c. &c.; these, with pure water or any other light non-exciting drink, as ginger beer, lemonade, &c. would, if the habit has not previously been much vitiated, afford a sufficient and proper restoration to the wearied powers, and at the same time quench the thirst and strengthen instead of weakening the constitution. It is true that to some persons beer and cider do not seem injurious, but we question very much if, in the long run, the constitution is not better without either one or the other. Fruit is in general easily raised. A Mr. W. Culbertson, about six miles up the Licking river, has, ever since he has been in this country, turned his attention to the raising all kinds of fruit, and his efforts, particularly as respects strawberries and raspberries, have been crowned with success. At this time he has many acres in strawberries, (the Pine, we believe;) he employs in the season near a hundred persons, chiefly the young, and has, this season, perhaps, realized from one thousand to fifteen hundred dollars at least, on their sale in Cincinnati. The Pine is, with the Hudson, one of the best kinds of strawberries that appears here.

For the past ten years, many more of the farmers and gardeners in this vicinity, with the proper knowledge, (which they might have attained by enquiry, or by reading some agricultural works or periodicals,) might have realized a handsome independence in the cultivation of the small fruits alone. Pears and peaches, too, together with many sorts of plums, planted in orchards where swine are allowed to run to destroy the curculio insect, might long since have been very profitable. But too many of them are contented simply with raising corn, hogs, hay, and a few common vegetables. It is never too late to begin a good work; let us persuade them to turn their attention to the raising of the best kinds of fruit, more than they have hitherto done, and they may be assured that they will be doing themselves and the public a great benefit. We could name several who are now setting a good example in this way, for instance, Dr. Shaler, of Newport, and Mr. Myers the confectioner, in Cincinnati. We wish these gentlemen every success in their praiseworthy undertaking. Mr. J. B. Russell, whom we have the pleasure to be acquainted with as a highly respectable consignee for the sale of the best eastern fruit trees, &c. has plenty of good trees for sale every spring and fall in this city. Mr. White, two miles up the Licking, has a fine assortment of fruit trees, &c. at his nursery. There are also several other respectable nurseries in the neighborhood, on both sides of the Ohio.

Improved Breeds of Sheep.

Having, in our last number, referred the farmers of this vicinity to Mr. C. S. Clarkson, of Cincinnati, and Mr. Geo. Smith, of Carthage, Ohio, for the most valuable breeds of sheep to improve upon, and perhaps in time to take the place of the common sheep of this

country, we proceed, with a view to benefit the farming community, to give a short sketch of the different animals in the possession of those gentlemen. Some of them are pure blooded stock of the New Leicester, or Bakewell, or Dishley breed, the Cotswold, and the Southdown, with others of the above breeds mixed with the Saxony.

The New Leicester are inferior in size to the other varieties they have supplanted in England. The wool is but of moderate quality, and in weight it falls short of that of the larger breeds. The value of this breed, therefore, does not consist in the size of the individuals, or the quality or the abundance of their wood, but in an early arrival at their growth, and aptitude to fatten. In these latter properties the New Leicester has not been surpassed by any other breed of cultivated sheep.

The Cotswold sheep, although the inhabitants of low hills, must be classed with the sheep of the plains. They are of massy form and bear long wool. The older breed has been universally crossed with the New Leicesters, and has been lessened in size, although doubtless improved in form. But the modern Cotswolds are still a very weighty race of sheep. Their wool is larger than that of the New Leicester, but not so fine. They are hardy, prolific of lambs, and good nurses, and the lambs are early clothed with a thick fleece. They have a tendency to accumulate fat on the rump. They are nothing like so perfect in form as the New Leicester, but their hardiness, prolificness and size, give them a claim to attention among the superior breeds of any country. The system of crossing with the New Leicester began more than fifty years ago, but for a considerable period past, the tendency of breeders has been to preserve the breed from further intermixture, and to revert to the standard of the older race.

The Southdown is a breed of fine wooled sheep. They are proper to hilly land. They are without horns, their legs and faces are generally gray, and until improved by breeding, they have the light fore quarters of mountain sheep; their wool is short and of a good quality, and their flesh is of excellent flavor. They are kindly feeders, and well suited to an extensive range of higher soils. They have, by the care and skill of breeders, been brought to the highest perfection of form and fattening properties: but in these improvements attention having been mainly directed to the properties of form, the fineness of the wool has been somewhat diminished, though its quantity has increased.

The Saxony are the best breed in Germany, but they will not bear comparison with the English, except in the fineness of their wool.

Small Farms.

We need not, any of us, be told, that agriculture was carried on by many of the ancients with considerable talent, as appears by their writings; and not only so, but they managed to cultivate but a very few acres with a great deal of success and profit. They caused an acre or two, or from one to seven acres at most, to produce sufficient for the abundant and comfortable subsistence of a family, constituting the acme of good farming and gardening. And this can be done now better than it could be done formerly, owing to the improvements that have taken place in

husbandry since those times. An acre of ground has been made to produce seven hundred bushels of potatoes in England, and of course many other crops are produced there in proportion to the same quantity of ground. It is a great mistake for men to suppose that it is necessary for them to obtain so large a portion of land as they are in the habit of doing generally, unless they intend carrying on the Kentucky or grazing system of farming. A small quantity of land well tilled, is better than ten times the number of acres scratched over. *Plentiful manuring* and *careful cultivation* is the great secret of farming on a small surface. Here is a case where a man actually *drew* support for his family, in vegetables, pork, milk, and butter, from a single acre. But let us hear this person, who is no other than the editor of the Maine Cultivator. Mr. Drew says of himself,

"The editor's notions may be peculiar, but he hardly thinks that it is necessary for a man to skim over his hundreds of acres for the security of stinted crops, in order to *qualify* him as a practical writer on the subject of agriculture. On the contrary he is inclined to think that even "a little land *well tilled*," by him, gives him as good a claim to speak by way of suggestion and advice, as if he were a *larger* and more *slovenly* farmer. True, all his land is a garden; but this is only what, or nearly what, every farmer should make of all which he cultivates. What is the use of skimming over ten acres to obtain what might be secured from a single acre? Must he who does *that* be called a *farmer*, whilst he who does *this* should be set down as wanting in a *practical* knowledge of the principles of agricultural economy.

The editor actually *cultivates* but a single acre of land, but *that* he does *cultivate*, and makes it yield all that land can yield. Nor, small as the quantity is, is the amount of substance obtained from it unimportant in the support of a large family. One-third of an acre he devotes annually to corn—the long-eared, large, clevelled, eight-rowed yellow corn, that is not very early, and not very late. With him it has ripened every year for the last ten years that he has cultivated it. The soil he makes rich. He applies to it, before ploughing, at the rate of eighteen or twenty cords of long manure to the acre, or six to the third of an acre, and turns it under by the plough. He plants the hills three feet and a half apart one way, and three feet the other —*exactly*, by measuring with a line. In each hill he deposites either a shovel full of old rotted hog manure, or as much night manure as will not over stimulate the crop. From this third of an acre he has realized on the *average* for years, over thirty bushels of sound corn for grinding, besides a *little* pig corn for the hogs in the fall of the year. This is as much corn as he needs in his family; besides a sufficient surplus for fattening one large or two small hogs. From the same land, he ordinarily obtains some two or three hundred of pumpkins, which serve important purposes in the family, besides being an excellent article for boiling up with the hogs' potatoes, giving a cow, &c. From the same land, too, he has generally obtained all the dry white beans he has needed in his family to go with his pork—which he raises by the avails of his land, without purchasing of others. The corn fodder is carefully cut and cured, and helps as a subsistence for the cow. So much for *one-third* of an acre.

A small portion of land is set apart for the culture of onions. Ordinarily he has raised from fifty to seventy-five bushels on a bed, say half a dozen rods square. These he sells on the average at one dollar per bushel—say for $60 per year. This purchases his flour and rye at common prices. So that from the first third of an acre, and an onion bed, he raises all his bread—brown and white.

On two other large beds, he grows generally about fifty bushels of mangel wurtzel and carrots. These are for the cow's winter provender. They more than pay for themselves in the milk and butter—to say nothing in the saving of hay and other provender. With a *very* little hay, together with the corn-fodder and roots, a good cow (and he finds it economy always to keep the best) may be kept through the winter.

Potatoes for summer and autumn use are planted on the margins, and wherever there is a vacant chance for a hill, and a department is expressly devoted to them, large enough to raise all that are wanted for the table—and enough to spare for the hogs, &c.

So far, as relates to bread, butter, pork—and he might add, poultry.

Then the rest of the land is devoted to—too many things to mention here—beets, parsnips, cabbages, turnips, green beans, peas, green corn, cucumbers, melons, squashes, summer and winter sorts, &c. &c., besides fruits and flowers of various kinds; grapes, Antwerp raspberries, black do., currants, white, red, black, and yellow; English and common gooseberries, and a few choice apple, pear, plum, cherry, peach, and quince trees. All this from a single *acre* which he cultivates mostly with his own hand—the same that guides this pen; preferring to do the work himself, not only by the love he has of it, but because he can do it more to his own satisfaction than can any gardener he can hire. As to the practical labors in this matter, he would not willingly yield to any one hereabouts. At least he has never had a man to work for him—how high soever he might stand as a gardener—whom he could not teach.

On the best mode of cultivating squashes for winter use, this gentleman seems to handle the spade as well as his pen.

If you would raise squashes for winter use, mark out on the surface of the land six or eight spots for hills, eight feet apart each way. Then take a spade or shovel and dig out a circle, say three feet in diameter, throwing the earth out six inches deep. Into each hole empty a wheelbarrow load of old rotten manure, mixed with ashes, and if there is a little lime in it so much the better. On this draw the loose earth back which you throwed out of the hole. Now take your spade and dig and mix the soil and earth well together, taking care to pulverize the whole mass faithfully. Level the top off and sprinkle half an inch of rich loam over the top. Drop a dozen seeds on the hill, and press them an inch beneath the surface with the finger. With a hoe smooth and press the top down. If you have a box fitted to receive two or four panes of glass, put this on a hill—or rather, if you have such a thing, place it on the hill before you plant the seeds, and drop them all within the frame. Ultimately leave not more than two plants in the hill to stand. You will find that these will, in due time, run out and cover the land all over, and produce you more, larger, and better fruit, than if you had the hills nearer together, or allowed a greater number of plants to stand in the hill. It is well, however, to plant enough in the first instance, as a contribution to worms and bugs. If you save two healthy plants out of the dozen that came up, you will do well, and these will be enough. The roots of squashes, under ground, will extend as far and occupy as much space, where the soil is free and loose, as the vines will cover above ground.

Destruction of Weeds.

The most effectual mode of extirpating weeds after the operation of the harrow, the hoe and the cultivator, during the growth of those crops which admit of their use, is, after the removal of the crops, to plough up every acre of the land after harvest, turning the soil, or weeds, if any, to a pretty good depth a little beyond the subsoil, laying it well up and over, by means of very narrow furrows, so that the grass or weeds

may be laid at the very bottom of the furrows, to create fermentation and consequent decomposition, which will largely benefit the growth of plants in the spring, which will be easily cultivated on account of the fall ploughing. With respect to the destruction of that great nuisance to the farmer and gardener, the *cutworm*, we have no doubt that by ploughing in the fall or winter when there is a warm sun during the day and pretty good frosts at night, a great deal is done towards its extirpation. To confirm the benefit of this practice we quote the following passage from an editorial article in the Farmer's Cabinet.

On the subject of autumnal ploughing, we received a lesson where we least expected it. On a late visit to one of the adjoining counties, we fell into conversation with a farmer, who was hoe-harrowing his corn amongst clods and half decomposed turf, that were a caution to look upon; and when we told him, if we could grow corn in England—which we admitted we could not, in consequence of the coldness and moisture of the climate—that we should do so with less than half the labor that he was bestowing, by ploughing the land before winter in small and deep furrows, for the purpose of decomposing the sod, and facilitating the spring working; he observed, he did not think there would be much advantage to be derived from that; "to be sure," said he, "you would get rid of the cutworm in the spring, *but that is all.*" On inquiring if that would assuredly be the fact, he did not hesitate to declare it would be so, "but that would be all." Now many of his neighbors were replanting their corn for the third time, in consequence of the destruction occasioned by the cutworm, and he himself must have suffered as much, and yet he considered the value of an autumnal ploughing to be almost worthless!

In this visit we were struck with astonishment to see how little regard was paid to the growth of thistles, mullen, and other large and very pernicious weeds, around the dwellings, orchards, and gardens, adjoining the high road, which will soon be in a condition to repay their owners ten thousand fold for their leniency; and we were reminded of a country in Europe, where there is a law to permit any one to go on his neighbour's premises, for the purpose of cutting up the weeds, to prevent them from shedding their seeds, the owners of these being compelled to defray the expense! Any large weeds may be destroyed by cutting just below the ground, and filling the hollow thus made with salt; if this is done during the time of their vigorous growth and before they blossom, the salt is then taken up into circulation, and the returning sap vessels carry the poison to the extent of the root to any depth. Flowering buds, or seeds, have no returning sap vessels, and this is the cause why no crops exhaust the soil in any sensible degree, until they begin to flower and to perfect their seeds. We assure "Weed Puller," nothing is easier than to extirpate weeds, if they are taken by the right end.

The Tare.

In our last number there was an article on the subject of the cultivation of Lucerne for *soiling* or carrying green food for the stable management or yarding, of horses, cows, and hogs. This plant, for such a system, (that of supporting animals from a small portion of land,) every farmer must perceive is more valuable than red clover in respect to its being cut five or six times in a season. That is a point well settled. The Tare is another production of this kind much used in England, as well as a little in the eastern states for the purpose of summer soiling. There is the Spring Tare and the Winter Tare.

The winter tare is not, at present at any rate, able to stand our winters, and the spring tare, although it furnishes an abundant crop as to herbage, does not seem to yield much seed in this climate, so far as it has been tried.

Tares are a sort of pea, of which there are many varieties, but the only two generally cultivated in Europe are the winter and spring tares. These plants are only annual, and perish soon after they have perfected their seeds. There is a marked difference in the appearance of the seed of the winter and summer tares, the winter being round, small, and black, and the summer much larger, flatter, and light colored. Upon the whole, the tare is a plant, the success or utility of the cultivation of which for soiling, is greatly more doubtful than that of Lucerne, and it is most likely that the latter, with our invaluable grass, red clover, will be all that we shall need in the west for that purpose for some time to come, if not always, particularly as there are other productions of succulent and luxuriant vegetation perfectly *suitable to the climate*, which may come into our service.

We will here only add, to incite experiment in others, satisfy curiosity, or impart information, part of a letter from a correspondent to the editor of the Farmer's Cabinet, Philadelphia—the first and second paragraphs are from Professor Low's Practical Agriculture, published in England.

Tares produce more green food than the best meadows, and the land may be cleared of them in June or July, time enough for a crop of turnips, or even potatoes, or of being prepared for wheat. They will fatten all kinds of cattle, suit every soil and climate, and on good soils will produce twelve tons of green food per acre. Winter tares are sown from the middle of August, to the middle of October, two bushels or two bushels and a half per acre. Spring tares may be sown from March to midsummer.

They begin to blossom in May, when they should be mown and taken to the cattle in the stables until they pod, when the remainder should be made into hay; whilst making into hay, they require a good deal of sun; rain is very injurious. If all the farmer's stock is kept upon them while green, they are taken off the grass land, consequently, there will be more grass to make into hay; and they should be sufficiently plentiful to keep the cattle on them until after hay-making, when they might go into the mown meadows. Good land, well manured, will yield ten tons green per acre, which will make three tons of the best hay on the farm. If preserved for seed, they have been known to yield forty bushels per acre, and sell from one dollar to seven dollars per bushel, according to the seasons. They are of such infinite importance for summer soiling, that Mr. Davis, of Beddingham, England, says, he could not maintain one-tenth part of the stock he does without them. This plant maintains more stock at that season of the year than any other whatever. Upon one acre of tares he can maintain four horses, in much better condition than upon five acres of grass; upon eight acres he has kept twelve horses and five cows for three months—June, July, and August—and no other food given them. Cows give more butter while feeding on them than on any other food.

I have sown crops of tares in succession during the spring and summer; the last sowing, on the 21st day of June, proving a heavy and most valuable crop for soiling working horses on a rail-road until the month of September—these were raised upon land which had been cleared of turnips in the spring and early summer, and which was sown upon the same by the 29th day of September. James Beynon.

Lime.

IT has occurred to us, that this valuable assistant in the productions of the soil, might be resorted to in many cases of worn out lands, now beginning to show themselves too plainly by ocular demonstration, in many parts of our western country; and we are moreover induced to bring this matter forward, in consequence of there having appeared of late, in some of the eastern periodicals, strong prejudices against the use of this mineral manure. Although it is not pretended but that its stimulating properties may be abused, and especially if there is severe cropping after its application; in which case, nothing but vegetable and animal manures can effect any restoration of fertility. Almost every farmer knows how to burn lime in this well timbered country; and considering the facilities of materials and location, and the need of its aid in many places, it is only surprising that more of it is not prepared. Dr. Shaler, we find, has set a good example on his farm in this neighborhood, in this way, as well as in many other respects, in agricultural improvements.

At the same time that the *proper sort* of lime is highly to be recommended, farmers ought to be put on their guard against that sort of lime which contains a high percentage of magnesia, as that suited for *water lime*, it being well ascertained by scientific deductions, to be unfit and injurious for the purposes of agriculture. The following brief and compendious directions on and for the use of lime, are taken from our work lately published—The Practical Farmer, Gardener and Housewife, &c.:

"*Lime, as a Manure.*—Very useful on land where there is no calcareous matter. On a moory soil, lime will produce good herbage where nothing fit for man or beast grew before. Grass land having poor and inferior grasses, will by it be made to produce those that are more valuable. Lime is wonderfully useful for turnips. In new lands of a tolerable quality, the richest manure will not enable them to bring any crops, but those of oats or rye to maturity; with a sufficient quantity of lime, peas, barley, or wheat, may be raised to advantage. Summer is the proper season for liming land. On land intended for wheat after corn, lime can be applied to the land in June or July, on small one-horse sleds, between the corn rows. For a turnip crop, lay it on in the spring. Lime is not good for potatoes. Lime is best for strong loams and stubborn clays. It should be applied in a powdered state, and slaked in heaps in the field to spread it even. It should be ploughed in shallow. In general, 8 or 10 barrels of lime to the acre is sufficient. Unslaked powdered lime is the best. It is an excellent top dressing for a green sward. Slaked lime applied to the *side* of hills of Indian corn, increases the crop. Sandy soils are greatly improved by lime. Liming should be repeated every 10 or 15 years. Some spread it upon the sod and plough it under, and consider there is as much profit in this way as in any other. Light sandy soils containing but little vegetable matter, should not have much lime applied to them."

A writer in the Farmer's Cabinet says of lime, "I have seen it applied at the rate of from sixty-five to one hundred and twenty bushels per acre, upon land entirely worn out by our old-fashioned mode of cropping, and the effect has been to increase the value of the land in three years *five hundred per cent.* The Cabinet is taken, and read with much attention by some of the farmers in this neighborhood, and any thing that may be found in its pages against the use of lime, emanating from practical farmers in the neighborhood of Philadelphia, would unquestionably

have much weight with the farmers here; but, judging from what I saw when travelling through a part of Pennsylvania a few years ago, I am induced to think that the use of lime is not held in as high estimation in Bucks county as it is in some of the neighboring counties. I recollect when travelling through a part of Philadelphia county, with a farmer of that county who had used lime to a great extent upon his farm, and I think I never saw a farm more highly improved; but, to my utter astonishment, in the course of our ride through this highly cultivated region, we suddenly came upon an *old sedge field!* How is this, said I, how came one of my countrymen here? 'Oh,' said my fellow traveller, 'don't be alarmed, we are in *Bucks county* now, we passed the line about half a mile back.'"

Clay a Manure.

In the Franklin Farmer, (Ky.,) there is an article from one of their correspondents, giving clay the name of manure. Now every ingredient that is important in soils, may, to a certain extent, be termed a manure, or what administers to fertility, and most mixtures of soils are beneficial; but soil of this description is various, according to the proportion of clayey material it contains. There is hardly any clayey land that is pure and free from sand, and there are few clays that are free from a mixture of calcareous matter, magnesia, vegetable and animal matters, mineral oil, and other mineral or metallic substances: some clays are of a more unctuous, and as it were, greasy nature than others. They are also as different in their natures as in their colors. Some of them are so obstinate that it is scarcely possible to subdue them. The bright friable clay, under the black top soil, mentioned by the correspondent of the Franklin Farmer, is a very different article, no doubt, from some kinds; and even the yellow clay turned up by a gentleman there mentioned, and thrown upon his garden, and which produced so luxuriant a growth of vegetables, and which he states was equal to a top dressing of the best stable manure, might have possessed some particular fertilizing substances. However, by ploughing any kind of clays in the fall, by exposing them to the action of the sun, air, and frosts, and laying them as dry as possible, we are sure to benefit them, and can thereby be better able to avail ourselves of what good properties they may possess. Manure at any rate can be used with the clayey subsoil. The following is the article from the Franklin Farmer:

"In the number of the first volume of this paper, published on the 28th of April, 1838, there is a communication, signed T., stating that the bright friable clay, which is under our black top soil, to the depth of some four to six feet, is as valuable as the black mould, when turned up and acted on by the frost and sun; that the Shaking Quakers, near Russellville, had discovered this fact. It has often occurred to me as very strange, that more attention had not been called to the statement. If true, a plough that will turn up the clay, is all that is necessary to return the most impoverished soil to its virgin fertility. We were informed, from a credible source, that in Mercer county, a gentleman was digging a cellar, and turned the yellow clay upon his garden. He was greatly surprised at the luxuriant growth of his vegetables, and was satisfied that the clay had been equal to a top dressing of the very best stable manure. A similar result followed from the clay of a mill race in Madison county being spread upon some adjoining land. To us this is a subject of a very interesting character, and we would be pleased to have any facts or information bearing on it.

Application of Manures.

Judging from the different practices of farmers, and from the conflicting opinions given by them in the various periodical papers published in all parts of the world, there seems to be a great diversity of ideas and usages on the subject and best mode of application of manures. As this is a very important point in good husbandry, time and labor cannot be considered lost in endeavoring to discover as correctly as possible, the most suitable general way of performing with the greatest effect on the land and crops this most essential operation. It appears to us there is often among farmers too strong a disposition to push their favorite theories into excess in description as well as practice. For instance, here is one farmer advocates the burying manure very deep, another considers it is best on the surface only, and a third recommends its being completely covered.

The argument of the first seems to be this, that by spreading on your strongest manure, and putting it in your deepest furrows, a succession of crops will average one third more than your *shallow* system: that it is a fact well known to practical and scientific farmers, that a grain of wheat, when planted in a mellow soil, will strike its roots three feet downward; the roots of oats eighteen inches; the beet, parsnip and carrot fourteen inches, and clover and the fine grasses much farther: that under the furrow fermentation is gradual, and as the season advances, as the heat increases, so increases the process of decomposition: the gases rise and mingle with the soil, and become the food for plants, when most wanted to ripen the seed or mature the vegetables: that the gases *always* ascend, that the sun and atmosphere have influence upon the soil, to as great a depth as it freezes in winter, or thaws in the spring, that this influence is upward and not downward, and that manure is seldom buried by the plough, or washed by the rains beyond that influence.

There are now many very eminent farmers in Maryland who advise the second manner of application of manures on the surface of the ground, amongst whom is Mr. Garnett, who says:—

I began penning my cattle late in the spring, and continued it until frost, in pens of the same size, moved at regular intervals of time, and containing the same number of cattle during the whole period. These pens were alternately ploughed, and left unploughed, until the following spring, when all were planted in corn, immediately followed by wheat. The superiority of both crops on all the pens which had remained unploughed for so many months after the cattle had manured them, was just as distinctly marked as if the dividing fences had continued standing; it was too plain to admit even of the slightest doubt. A near neighbor, a young farmer, had made the same experiment on a somewhat different soil, the year before, but with results precisely the same. Similar trials I myself have seen and made by others with dry straw, alternately ploughed in as soon as spread, and left on the surface until the next spring. In every case the last method proved best, as far as the following crop would prove it. The same experiment has been made by myself and others of my acquaintance, with manure from the horse stables and winter farm pens, consisting of much unrotted corn offal; and without a solitary exception, either seen by me, or heard of, the surface application, after the corn was planted, produced most manifestly, the best crop. Upon these numerous, concurrent, and undeniable facts, my opinion has been founded,

that *it is best to apply manures on the surface of lands;* and "I guess," (as brother Jonathan would say,) that it is not likely to change, unless, indeed, I should hear a still greater number, equally well authenticated, on the opposite side; although I must say, that up to the present time I have not heard a solitary one. True it is, that I have read many ingenious, fine spun arguments in opposition to the opinion which I hold in common with numerous other agriculturists, but no proofs whatever have accompanied them, and therefore I must remain an infidel, until they are sustained and corroborated, by such facts as should always be deemed indispensable to establish any practice whatever, in any of the various branches of husbandry. All these results undeniably prove that the surface application was best, although the kinds of manure differed considerably. And what have we in opposition, any facts whatever? Not one; and only the conjecture, that the evaporation from the surface spread manure must carry off the greater and best portion of the food of plants therein contained. But that such evaporation cannot thus act, seems to me to be unquestionably proved by every fact I have mentioned; for, *if it did*, then the land of summer cow-pens ploughed up as soon as removed, would, in every case, have produced better crops than that of the *unploughed*, instead of doing it in none. Similar results, too, must have followed in the other cases I have stated, although I have never seen nor heard of their doing it in any.

My belief, founded on the facts already stated, is, that all the fertilizing substances of manures are soluble in water, and will remain uninjured themselves, and useless to plants until the solution begins, whether they be deposited *on* or *under* the earth's surface. I also believe, that this solution is caused by every fall of rain, and is immediately absorbed by the subjacent soil, which absorption results from two causes; first, the principle of gravity, and secondly, the stronger attraction of the earth than that of the atmosphere, for every substance in solution which constitutes the food of plants. Moreover, that the earth never parts with this food when thus absorbed, to any thing but the plants themselves; for it is *their* peculiar aliment, and not that of the atmosphere, whose existence, for aught we know to the contrary, is entirely independent of it, although its agency seems essential to the health and vigor of all plants. If this were not the fact; if, (for example,) the earth did give the greatest and best portion of this food to the atmosphere; or, if it escaped from surface spread manure, before gravity and attraction could impart it to the earth, then the evaporation which is supposed to be the medium of conveyance, and which is known to be constantly going on from the soil, would, in process of time, certainly render it barren, even without any cultivation whatever. Yet neither total nor partial barrenness is ever known to be produced by any other cause than incessant culture without manure. That evaporation does take off something from manure while in a moist state, is proved by the offensive smell which constantly exhales from it until it is entirely dry. This smell is excited by a gas which is said by some, to contain the most valuable portion of food of plants. But admit the fact, where is the proof of this portion being lost? I say there is none. On the contrary, we have what I think a conclusive reason for believing, that this food is immediately given by the atmosphere to the tops of plants, as more suitable to them than their roots. My reason for this belief is, the result of the following experiment which I have known to be repeated several times. All the bark was taken of from around the body of certain young trees, in a ring about three inches wide, for the purpose, in the first case which I saw, of ascertaining whether this process would not kill the tree. But to the surprize of us all, not more than a year or two elapsed, before that part of the body above the ring became obviously larger than the part below, and this difference in size increased every year

afterwards, as I have frequent opportunities of noticing.

Another reason why I believe that manures act better, if spread on the surface of land than when buried under it in the customary manner, is, that in the first case, the rain water carries the dissolved substances no deeper than the roots of most of our cultivated plants always grow, unless they are forced out of their natural course; and there these substances remain fast held by the earth's chemical affinity, until the strongest attraction of the spongioles of the roots begins to act upon them. But in the second case, that is, where manure is ploughed under as soon as spread, all the food of plants contained therein, being placed quite as deep as their spongioles naturally grow, and this too, before the rains begin to dissolve it, the subsequent solutions caused thereby, necessarily sink still deeper, and generally beyond the reach of the plants, for whose nourishment they are designed. In no other way can I account for the long noticed and invariably superiority of crops produced by surface spread manure, to those produced by that which was ploughed in. To me there appears to be but this alternative, either to deny the facts already stated, which I myself have often witnessed, or to explain them, (if we must theorize on the subject at all,) in some such way as the one which I have just offered to your subscribers, and to such others of our brethren as may choose to examine it. Permit me further to add, that on this subject nature herself seems to offer us a useful lesson, if we were not too wise in our own conceits to be taught by such an instructress; for I know not a single exception to *her* practice of depositing on the earth's surface, all the putrescent substances of every nature and kind, which appears designed to preserve her fecundity.

In close connection with this subject, there is one other matter on which I will take the liberty to express an opinion, although your subscriber has not asked for it. This is, in regard to the best state in which manure can be applied. So far as my own experience enables me to judge, an experience confirmed by that of many others in whose practical knowledge of the subject I have great confidence, I believe that the fresher it is, the better; for in such state, so much less will suffice, than in any more advanced stage of putrefaction, that time, labor, and value are all saved in the application, while none of the alleged "*burning*" ascribed to the manure being "*too hot*," ever occurs, if the quantity used be lessened in proportion to its freshness. This injury to plants, if I mistake not, is always caused by *excess* in the quantity, and not by the *quality* of the manure we apply to them, although the two things are often confounded, and thereby contribute to the perpetuation of error in regard to the nature and operation of all fertilizing substances. There is not, I believe, an agriculturist of any experience in our country, who has not had frequent opportunities of witnessing numerous facts to prove the correctness of these opinions. Two or three years, at most, would have been amply sufficient to establish the most beneficial practice, if all those whose special interest it is to ascertain it, would have diligently and impartially resorted to comparative experiments, accurately and assiduously made for the purpose, rather than to speculating and theorizing about it. But it never can be too late to make such experiments. Let me therefore, most earnestly, but respectfully recommend to your subscriber who has done me the honor to ask my opinion, as well as to all others who still have doubts on the subject, forthwith to commence making trials of the different methods of applying manures, and also of the different states in which it is applied.

The third and last method of applying manures is to cover them up entirely, but *shallow*. This is the most common practice in tillage crops. By so doing, it would seem, (at any rate until further facts are known on this

subject to determine us either to cover them up deep, or place them completely on the top of the ground) that we steer clear on the one hand of putting them too far beyond the reach of the roots of plants, and on the other of allowing the dissipation of their elastic or gaseous matter upon the ground, to be lost in the air.

With respect to the state in which manures should be applied, whether fermented or unfermented, or only in part decayed or in part fresh, a great deal will depend upon whether the immediate effect be absolutely requisite, as in raising turnips, in which case rotted dung must be used, (care being taken in preparing it, to prevent its heat from rising high, or any of it from escaping, either in a liquid or a gaseous state, by covering it well in the heap,) or whether the effect is intended only to be gradually drawn out during the season and in a succession of after crops—when the decomposition goes on as slowly as possible, and all the elements of the substances of which recent dung is composed are retained in the soil as they are set free, in which last case fresh manure is the best. Mr. Coke, perhaps the best farmer in England, "has entirely given up the system formerly adopted on his farm, of applying rotted dung, and he asserts that his crops have been since as good as they ever were, and his manure goes nearly twice as far." It is a general principle in chemistry, that in all cases of decomposition, substances combine much more readily at the moment of their disengagement than after they have been perfectly formed; and in fermentation beneath the soil, the fluid matter produced is applied instantly, even whilst it is warm, to the organs of the plant, and consequently is more likely to be efficient than in manure that has gone through the process, and of which all the principles have entered into new combinations. But whether we apply manures fresh, or but slightly decomposed (which should not in our opinion, be allowed to proceed far,) we think, until further light is thrown upon this important subject by decisive experiments, that we shall proceed more safely by covering with the plough, or at any rate with the harrow or hoe, as much as possible, all the manures which we may throw on tillage lands.

From the Albany Cultivator.

The most Profitable Breed of Cattle.

Having thus given a hasty summary of the principal facts which tend to throw light on the main question before us, viz. "*What breed of cattle is most profitable?*" we proceed to state our convictions on the subject.

That the common cattle of the country do not possess the greatest attainable combination of excellencies will readily be admitted. A selection of them present very desirable qualities for the dairy and the yoke; but in feeding properties, and especially in early maturity, they are deficient. A full blooded Durham bullock will go profitably to the butcher, at least two years earlier than the American, a decisive consideration to the grazier: and although the former is the greater consumer, the extra food required by him, will weigh but little against the two or even one year's additional keep of the latter.

But notwithstanding all that may be said for or against them, it is to the *best cross* with selected animals of the common race, feasibility and expense being taken into consideration, that the common American farmer must look for the most profitable breed of cattle. In this proposition we wish to be distinctly understood. We do not intend to assert that the produce of any cross we might thus make, would surpass in value, breeds already in existence; but

the entire substitution of a foreign variety for our own, presupposes an expenditure of time and funds utterly out of the question.

The question then is, with what breed is this ameliorating change to be effected? On a careful comparison of the characteristic merits and defects of our own cattle, with the corresponding ones of other varieties, we arrive unhesitatingly at the conclusion, that to the pure improved Durham, we must look for the basis of the desired improvement. A cross with the Devon or Hereford, would sacrifice milking properties: the dwarfish and ill-shaped Alderney, is not to be thought of: the Ayrshire or the Long Horn, possess no excellencies that the Durham does not possess in a greater degree: and the Holderness and the Teeswater Short Horns, compared with the improved race, are as the crude ore to the manufactured and polished metal.

Experience has already proved that the cross between the Durham and our common race is a most judicious one, and examples are not wanting of it in our own country. A few years since a bull, sired by Wye Comet, was introduced into Homer, and his progeny are remarkable for their size, beauty, and milking properties. They are but few, as most of our people at that period, who gave a thought to the subject of the improvement of their cattle, and they were not numerous, preferred the cloddy buttocked Yorkshires! Yet, there is not perhaps one of the immediate descendants of this bull, that would not be readily selected out of a large herd of the best common cattle, for its superior beauty or form.

The first cross between choice native cows and the improved Short Horn, has generally resulted equally favorably; indeed, the very beauty of the produce has tended to prevent further attempts at improvement, by encouraging farmers to breed directly from half and three-quarter bred bulls. They frequently lack little of the beauty of their sires, and their services are to be more cheaply procured. But the characteristics of a variety thus obtained, are not sufficiently stamped upon them in the first, second, or even third or fourth cross, to be perpetuated with any great degree of certainty in their offspring. In the language of the Rev. Henry Berry, "to breed from the produce of a cross *directly among themselves*, will lead to the results which have induced many persons, without due consideration, to believe conclusive against crossing, but to take one cross, and then return and adhere to one breed, will in the course of a few generations, be found to stamp a variety with sufficient certainty,"

Repeated experiments have amply demonstrated, that interbreeding between the Durham and our common race, if conducted on the principles advocated by Mr. Berry, viz. by a constant resort to the pure-blooded bull, is attended with a decided and manifest improvement of the produce in every successive generation. The bull selected, should be small of his kind; fine in the bone; unusually full in the crops and bosom, and wide in the loin and haunch—points in which the common breed are defective. He should be chosen, too, from a family of decidedly good milkers. If the bull is large of his kind, the produce are generally coarse, and marked with the defects which attend great disparity in the size of the sire and dam. The dam should be as good in the points indicated in the bull, as our means of selection admit of: short legged, compact, deep in the girth, and a plentiful and steady milker. We have already alluded to the change effected by the farmers of Ayrshire *on a poorer breed*, by a Short Horn cross; and there can be no good reason why the American farmer, with the same skill and perseverance, may not be equally successful. Indeed there are grade Durhams already among us, which there can be no doubt are equal or excel the Ayrshire in every desirable point.

The Durham, as we have before remarked, requires more feed than our small native cattle. This his superior size would lead us to expect. But

though a greater, he is a more promiscuous consumer, the coarsest quality of hay or straw being readily devoured by him. In England, straw, with a very small allowance of turnips, constitutes his exclusive store keep in winter. But to bring this matter to its true test, will the Durham yield as great a return in flesh, fat, or milk, for the amount of food consumed, as any given breed? That he will, repeated experiment, as well as his daily advancing popularity, in a country where there are many varieties greatly excelling our own in aptitude to fatten, and at least equalling them in milking properties, fully attest. The amount of food required by him, therefore, forms no objection to the improved Short Horn, on good soils, either in his pure state, or as a cross with others.

The only question now to be considered is, will the recommended cross supply us with working cattle? It is asserted on the best authority, that the pure blooded Durham ox will "work admirably;" and the reason assigned for his not being oftener used for that purpose in his native country, is, that his early maturity renders him too valuable at three, for the butcher, to be retained with profit until four or five, for the yoke. There can be little doubt, that united with our smaller but vigorous and active race, a heavy and powerful variety of working cattle will be produced. Those especially fed on upland and less nutritious pastures, whose labor *ought* to compensate for their tardier maturity, with size, feeding properties, and docility, increased by the cross, will lose little, and probably nothing, of the activity and hardihood of the common race. To what precise extent interbreeding should be carried, to produce the most valuable breed of working cattle, experience alone can determine. HENRY S. RANDALL.

Cortlandville, January 21, 1840.

Bone as a Manure.

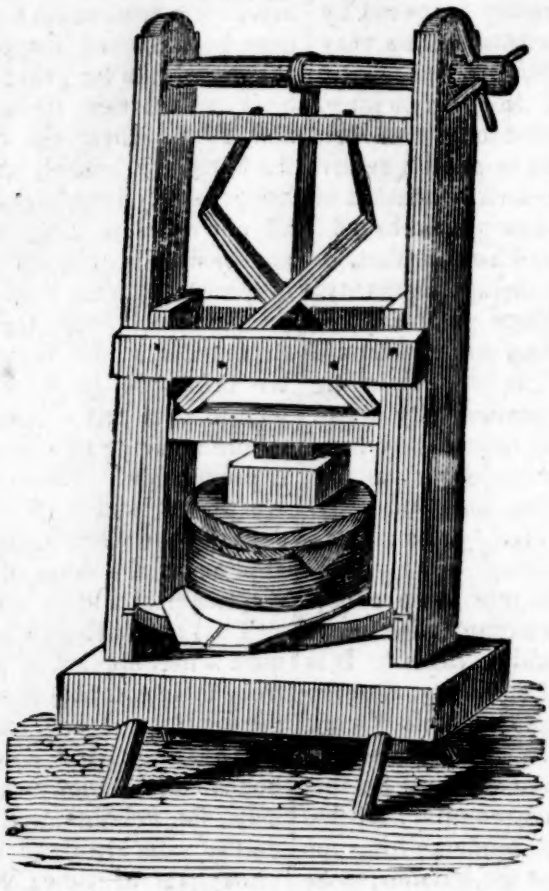
THE use of bone as a manure for crops, particularly the drilled or root crops, is rapidly increasing in this country, wherever the ground article can be procured, and it appears to justify all the reasonable expectations that have been formed respecting its application. Mills for grinding bones have been erected near Boston, New York, and Troy, where the dust is sold by the barrel or bushel, and where tried has generally been highly approved. In all our cities or large villages, almost any desirable quantity of bones could be procured, were it of consequence to preserve or obtain them; and as the expense of a mill for grinding cannot, we think, be great, would it not be well to have one at least in every place where a saving or sale of this material is practicable. Bones simply crushed are useful, and their effects are more durable than when made fine; but when applied in the form of dust, the effect is quicker and more sensible.

That bones should be an active manure when applied to plants, is evident from their composition. According to the analysis of that excellent chemist, Mr. Hatchett, the component parts of bones are chiefly four—the earthy salts, fat, gelatine, and cartilage. The earthy salts are three in number: 1st, phosphate of lime; 2d, carbonate of lime; 3d, sulphate of lime.

Experience in the use of bones has proved that the gelatine is the most valuable part of the bones, and this analysis proves, that of all bones those of man and the calf are most serviceable as manures. In England the dust made from bones brought from the battle fields of Europe, has been most esteemed, and until that source of supply was exhausted, ship loads of them were imported annually for grinding. Boiling bones for the purpose of making portable soups, by extracting the fat and gelatine, injures them for the purpose of agriculture, in proportion to the quantity extracted. Bones from soap makers, when crushed, are little more than the salts of lime; and these, though very valuable on some soils, can be obtained cheaper other ways. The average quantity of gelatine is not far from 1.16 of the bone.—*Genesee Farmer.*

From the Practical Farmer, Gardener, and Housewife.

Cheese Press.



Quakers' improved self-governing Cheese Press.—The Press is so constructed as to govern and regulate itself, in pressing a Cheese of any size, without any weights.

An approved method of making Cheese.

Add the night's milk with the morning's milk, and gently heat it over fire, in a kettle, to ninety-four degrees. Then put it into a tub or vat. Add sufficient prepared annatto to give it a handsome yellow color; then add sufficient rennet to make it curd in twenty-five minutes. When curded, use a wooden knife or sword of sufficient length to reach the bottom of the tub, and chequer it all in squares of about two inches. It is important to chequer it all to the *bottom*. Then let it stand till the whey appears above the curd, say from fifteen to twenty minutes. Then break it up carefully with the hands in such a measure as not to bruise or break the pieces of curd. Next place a clean strainer on top of the whey and curd, and gently press it down so as to cause the whey to rise on the top; then lade off the whey with a dish or dipper, or what can be conveniently taken off in that way. Then place a cheese strainer in a cheese basket over a tub, and carefully remove the curd *into a solid mass*, and the remaining whey into it, and cut it into slices with a thin skimmer, until the whey has mostly drained out; then bring the corners of the strainer together, and twist them so as to press the curd into a solid mass, and place the twisted corners down in the basket; place a clean board about one foot square on the top of it, on which place about twenty pounds weight, to press out the whey, and consolidate the curd. In fifteen minutes cut the curd in pieces one inch square, with a knife resem-

bling the carving knife, then put it into the strainer as before, with the weight on it. Let it remain ten to fifteen minutes, then cut as before, and so repeat five to ten times, until the whey has already done dripping out of it. After which it is taken out, and cut into pieces of about two inches square, put into a wooden bowl, and chopped with a chopping knife, until the pieces are about the size of a kernel of corn. The next process is scalding, done by putting the curd into a strainer, and putting it into a kettle of *hot whey*, heated to one hundred and twenty-six degrees and *no more*, for if the whey is too hot it will ruin the cheese, and make it hard and dry. While in the whey, it must be stirred with the hand, until the whole is equally heated. It is then taken out, and put into the cheese basket over a tub, and a sufficient quantity of clean fine salt, thoroughly mixed with it, to give it a high salt flavor. Let it stand till hardly blood warm; then the corners of the strainer are twisted together as before, when it is put into the hoop destined for the purpose, and placed in the press, and pressed with the weight of one hundred pounds to every ten pounds of curd. After half an hour, it is taken out, turned in the hoop, and replaced in the press; now add one third to the weight in pressing, and let it remain three hours. Then it is taken out and placed in a clean fine linen cloth. Take pains that the cloth be perfectly smooth, and no wrinkles in it. It is then put into the hoop, and pressed forty-eight hours, being once taken out and turned during the time; at this pressing, one third additional weight must be added. It is then taken out and oiled, at least every twenty-four hours, until it is thoroughly cured. To prepare the oil, put the whey, in which the curd is scalded, into a tub, and let it stand about twenty-four hours. An oil arises which is skimmed off. Put it into a kettle, and simmer over a moderate fire. A sediment will fall to the bottom; then pour off the oil, which is fit for use. For painting take eight ounces of Spanish annatto (or in this proportion,) put it into three gallons of weak lye made from common ashes, and boil it until it dissolves or becomes of a bright yellow color. Thus it may be put into the milk as before stated. To prepare the rennet, take the calf's second stomach immediately after it is killed. Take the contents, (the curd which some save) rinse the bag clean in cold water, then rub it over with fine salt, and lay it away to dry. When dry, make one gallon of brine to each bag by mixing as much clean alum salt with hot water, as it will dissolve, and after the brine is cool, put it in the bag. When it has soaked several days it is fit for use.

For the Western Farmer.

Improvement of the Breed of Hogs.

Mr. E. J. Hooper:—Dear Sir,—In compliance with your request to give you my opinions of the Berkshire hog, in comparison with our other breeds, I feel well aware that there are many whose age and experience would entitle their opinions, upon this subject, to much more weight than mine. But, at the same time, feeling desirous for the advancement of your very useful periodical, the Western Farmer, knowing, by the advancement of such works, we are advancing the cause of agriculture, I shall proceed to give you my short experience in rearing of swine. I do not intend theorizing upon the subject, but merely to give you facts. In the year 1828, when I was but a youth, circumstances threw under my control an excellent farm with the stock upon it. Although raised upon a farm, I had but little to do in the cultivation; knowing but little about it, I thought I knew a great deal, a mistake which all persons who believe it does not require a long experience, will realize when they undertake it.

I continued the care of my hogs to an old negro man, whose business it had been to attend to them for many years. He considered them an excellent breed. I usually attended when he fed them, and

soon found, from the quantity of corn consumed, I had but a poor return of pork, and concluded to make an improvement in my stock of hogs. It was continually the cry, "old man, give those hogs more corn, they look too much like race horses." The old man would reply, that I could not expect hogs to fatten until they had got their growth; and when I would speak of looking for a better breed, he would say, he did not know where I would find them, for these were of the same stock his old master used to have, and he had as good hogs as any body. This breed appeared to be of the common long nose stock, (just such as you may now see at this day of improvement on more than half the farms in this section of country,) which take about two years to get their growth, and when turned upon grass would turn up the sward with almost as much facility as our old fashioned ploughs. With all of the old man's prejudices and arguments in favor of that stock, I procured myself some three or four sows and a boar of the mixture of the Russia and Byfield stocks. I compelled the old man to resign all of his long nose breed to the knife, except one sow, which he did with great reluctance, alleging this sow must be kept, as he knew I would be for getting back into the old stock again very soon. It was evident, in a short time, that a great improvement had been made in our hogs, and the old man began to think, as his favorite sow was getting rather old, we had as well put her up with the fattening hogs, without one word being said about retaining her pigs for breeding. I will here remark, that if we expect to improve in the branches of agriculture, or in stock, we must endeavor to lay by our partialities and prejudices, and dispel the mist which hangs over us, and which thickens with our growth, and if not arrested, will become so dark that we may never be able to see our own interest. To dispel this dark mist which now hangs over many, and if some efforts are not made to remove it, will be handed down to posterity with a redoubled thickness, I would recommend to every farmer to take an agricultural work, which in a short time will prove like the rising sun, that grows brighter and brighter until the mist shall be dispelled, and our way lay clear before us; then we shall be able to judge things according to their merits, and not be slaves to old partialities, prejudices and habits. But I am digressing. Although my stock was much improved by the change I had made, I found it yet susceptible of great improvement. This breed were good sucklers, generally white, rather flat sided, and too loose coupled, growing rapidly when well fed, pretty good grass hogs, and when they attained the age of eighteen or twenty months, gave a tolerable return of pork for the produce consumed. About this time I was presented by a friend of mine with too beautiful young sows of the big China breed. They were very compact, short legged, heavy bodied hogs, and took less feed to keep them than any stock I ever saw; their propensity to fatten was so great that they made poor breeders. I then procured a boar out of a very large fine sow of the Byfield and Russia cross, by a boar of the small China breed; the boar proved to be a very superior hog. I bred my two big China sows to him; one of them I never succeeded in raising more than two or three pigs from; the other, after she became about two years old, did better, generally rearing most of her pigs when they came in good weather. From this sow I now have some most promising young breeding sows, which stock I call the Fairfields. Last fall, being at the Brighton fair, and seeing some Berkshire pigs I was much pleased with, I purchased of them two sows and a boar, which had been pigged in the spring. In the months of November and December they were stinted to my Berkshire boar, which brought their pigs in February and March, they then being about eleven months old, one bringing six, the other nine pigs. They are both now with pig again. This stock I consider superior to any I have seen.

They are great sucklers, mature early, can be made fit for market at any age, and will thrive well upon grass. My boar with moderate keeping, (as I do not wish him to get very fat,) is pronounced by good judges to weigh 400 pounds, and he is about fifteen months old. I have several Fairfield sows that will pig soon, by my Berkshire boar. I anticipate a most favorable result in the cross. I think I am now able to say, without the least exaggeration, that my pork will not cost me by fifty per cent what it did with my original stock, and instead of crying, "more corn, more corn to those hogs," it is, "feed less corn, old man, or you will have them too fat," (alluding to my stock hogs.) The old man now takes as much pleasure in showing his pigs as I ever did in showing a thoroughbred colt, (and you can vouch yourself, Mr. Editor, for my propensity for that stock,) and laughs as much at his neighbours' long nosed hogs as if he had never fed one himself.

A few remarks upon the management of sows and pigs. I have adopted the plan of keeping my boar to himself, so that I can regulate the time of stinting my sows to him. The time I prefer is December, which brings the pigs in March or first of April, the time of gestation being one hundred and twelve days. The sows are stinted again in May, which brings their pigs in September; in this way I always have my pigs to come in mild weather. I keep a register so as to know when each sow will litter, and in time put her in a lot to herself, with a good shelter and a trough, where she can be slopped, until her pigs are strong enough to be turned on grass with the rest of the sows. So soon as the pigs have learned to eat slop, I have a pen with a hole sufficiently large to admit the pigs, but not the sows, with a long trough in it to deposite slop for them. When I dig potatoes, all my small ones are saved. I have a furnace with two large kettles, in which I boil my potatoes. When they are sufficiently cooked, I add, just before taking off, about four quarts of Indian meal to every twelve gallons the kettles hold, which makes it very rich by stirring it well with the potatoes. I then throw the whole into large tubs, made by sawing large hogheads in two; to this I add all my sour milk, pot liquor, dish water, &c., and a little salt if required. This slop is the better for being a little soured, which is easily done by always leaving a little of the old in the tubs. I have no doubt persons living at a distance from market would find it a great saving to raise potatoes to feed in this way. The reason why I have only fed the small ones, was my convenience to market affording me sale for my large ones. This preparation may all be done by small boys that would not otherwise be profitably employed.

Clover I consider as a valuable pasture for hogs after they attain the age of five or six months, but for sows with pigs it is very injurious. I never saw a thrifty pig that ran upon clover; they generally become puny, and many of them die. The cause I do not know that I am able to give; some suppose the clover injurious to the quality as well as quantity of milk, but I am not sure that it is not owing to the pasture usually being high, which retains the wet from rains and dews so late in the day that the pigs are kept so continually wet, that their hides when exposed to the hot sun become crusty and hard, sometimes producing a sort of surfeit or mange. I have never experienced any disadvantage from other grasses that are usually grazed short.

Now, Mr. Editor, I have done, and if I shall be the means of so far dispelling the mist from a single farmer's mind, (while one of these long nose breed is looking him in the face and squealing for more corn, after having eaten enough to have served two of a better breed,) as to induce him to make a change, I shall be fully compensated for my trouble. J. T. Berry.

Fairfield, Ky. June 27th, 1840.

The agricultural interests are most shamefully neglected by our legislatures.

From the American Swine Breeder.

Treatment and food of young Pigs.

In the second chapter of this work, we have already alluded to this subject; and it is certainly one deserving the most careful consideration: care and attention to these animals at this tender age is of far greater importance than the practice of many would lead us to suppose; and upon their treatment during the few first weeks depends the ease and rapidity with which they can be subsequently reared and fattened. To wean young pigs in such a manner, that they may lose no flesh during the process, and may remain at its close in a healthy and growing condition, is an undertaking attended with considerable difficulty. Their food should in general be given *moderately warm*, and milk is undoubtedly one of the best articles which can be offered at this period. The produce of the dairy should, therefore, be used frequently and freely. Many judicious farmers have asserted, as the result of experience on this subject, that cows may be kept, for the exclusive nourishment of *young pigs*, with great economy. That this will be the case, when the proceeds of the dairy are given, no one who has tried it will dispute. Several instances are recorded of hogs that have been *fattened entirely* on this article for the purpose of experiment; and the result has shown, that no pork is superior in point of weight and substance. Of the astonishing rapidity with which animals will thrive and increase while using it, we have ourselves seen abundant proof, in the growth of an improved Berkshire boar, which was weaned under the direction of a highly intelligent agriculturist, Solomon Porter, Esq., of Connecticut, and afterwards fed almost entirely on this article. and which attained, at the age of three months, the great weight of one *hundred and forty pounds*.

The practice of mixing milk with other articles for food of young pigs, is highly recommended by many farmers. Says a judicious breeder, in a letter to the Hon. H. L. Ellsworth, "from actual experience, I have come to the conclusion, and practised upon it for the last twelve or fourteen years, of having as many spring pigs (that come say in March) as I have cows for the summer, and feeding the pigs on milk or whey, mixed with provender, ground from corn, rye, oats, barley or buckwheat, and prepared in the form of a pudding, in which way the pigs will eat it best. If they appear to be clogged with one kind of grain, I try another, and often mix different kinds together."

The author of the "Practical Elements of Agriculture," suggests that pigs should be weaned at the end of the first six or eight weeks, and be fed three times daily with wheat bran, barley dust, or by farinaceous food mixed with water warmed to the temperature of the mother milk, and with whey, or other refuse of the dairy or kitchen. Young pigs, he remarks, are sometimes disposed of when sucking the dam. In other cases, they are sold when weaned, to persons who design to feed them, and in other cases they are fed by the breeder himself.

When they are fattened by the breeder, two modes of feeding may be adopted. They may either be suffered to go at large, or they may be kept in pens and houses; by the first of these methods, after being weaned and fed for a period, until they are able to shift for themselves, they are turned abroad to pick up what they can in the straw yard, a little green food, as tares or clover during summer, and turnips or potatoes during the winter being supplied to them. They do not, under this management, receive any more expensive feeding until they are put up finally to be fattened, when they are confined for a few weeks and fed on farinaceous and other food. The pigs intended for this species of management should be the best of the *smaller varieties*, and they may be killed for domestic use or disposed of when seven or eight stones weight. All the accommodation required under this system of management, is a few pens with sheds:

first, for the breeding swine when nursing their young, and second, for the pigs which are in the course of being fattened.

In all cases, upon a farm, a certain number of pigs may be kept at large in this manner, for picking up the waste of the farm yards. But the regular course of management, and that best adapted, where the feeding of the animals is carried on upon a large scale, is where separate feeding-houses for the pigs, in which a greater or lesser number can be kept.

"Weanlings," remarks Mowbray, "should have at least one month of delicate feeding, warm lodging, and care. The same kind of food should be continued to them three times a day, to which they were at first accustomed with the sow. The *first* food should consist of warm and nourishing wash, whether from the kitchen or dairy, thickened with fine pollard or barley meal. A portion of strong beer may be added as a cordial, should circumstances render it necessary. The common wash, pollard or meal mixed with water, is scalded the better. The same diet is proper for the pigs to partake of while sucking. Very young pigs ought not to be left abroad in continual rains, and will always pay for a daily moderate feed of old beans with clover."

"Weanlings are fattened for delicate pork *chiefly in the dairies*, where they are made ripe in a few weeks. Generally a pig of five or six months old will be fatted in seven, or eight, or twelve weeks, dependent on his condition."

An English writer remarks, "Swine will fatten much faster on *warm* than cold food. Corn and cold water will make them healthy, but warm beverage is considered as requisite to quick growth. Some English farmers turn in their little pigs to the fatting sty. While the fatting hogs are taking their repast, the little ones wait behind them, and as soon as their betters are served, lick out the trough."

"Besides the advantage of having by this method no waste or foul troughs, there is another; the large pigs rise alertly to to their work, lest the small ones should forestall them, and fill themselves the fuller, knowing they have it not again to go to.

"The disadvantage of this practice is, that the large ones are apt to lord it too much over the little ones, especially in a confined sty. If, however, they have a separate apartment assigned them, with an entrance too small for the fatting swine to follow them, this disadvantage would be in a great measure remedied."

A writer in Rees's Encyclopedia, while writing in regard to *young pigs* and *sows with pig*, holds the following language: "The sows considerably advanced in pig, and those with pig, should be fed in a better manner than the store pigs. The former should be supplied with good wash twice or oftener in the day, and have a sufficient allowance of cabbages, potatoes, carrots, or other similar vegetables, so as to keep them in good condition, which is shown by the gloss of their coats. The sows with pig should be kept with the litter in separate sties, and be still better fed than those in pig. When dairying is practised, the wash of that kind which has been preserved for the purpose while the dairying was at its height, in brick cisterns constructed for receiving from the dairy—must be given them, with food of the root kind, such as carrots, parsnips, potatoes, and cabbages, in as large proportions as they will consume them, in order that the pigs may be properly supported and kept in condition.

But when the business of dairying is not carried on, so as to provide wash of that sort, meal of some kind or other must, Mr. Arthur Young thinks, be had recourse to for the making of wash, by mixing it with water which, in the summer season, will be sufficient for their support, and in winter it must be blended with the different sorts of roots prepared by boiling; or when for young pigs, with oats and pea soup. With this soup and dairy wash, when proper attention is bestowed, young

pigs may, he conceives, be weaned and reared in the winter season even, with profit and success. The pea soup is an admirable article when given in this intention. It is prepared by boiling six pecks of peas in about sixty gallons of water, till they are well broken down and diffused in the fluid; it is then put into a tub or cistern for use.

When dry food is given in combination with this, or of itself, he advises oats, as being much better than any sort of grain for young pigs, barley not answering nearly so well in this application. Oats coarsely ground have been found very useful for young hogs, both in the form of wash with water, and when made of a somewhat thicker consistence. But in cases where the sows and pigs can be supported with dairy wash and roots, as above, there will be a considerable saving made by avoiding the use of the expensive articles of barley meal, peas or bran and pollard.

Mr. Donaldson remarks, that in the usual mode, the pigs reared by the farmer are fed for some weeks, after they are weaned, on whey or buttermilk, or on bran or barley meal mixed with water. They are afterwards maintained on other food, as potatoes, carrots, the refuse of the garden, kitchen, scullery, &c., together with such additions as they can pick up in the farm yard. Sometimes they are sent into the fields at the close of the harvest, where they make a comfortable living for several weeks, on the gleaning of the crops; or at other times where the farmers are situated in the neighborhood of woods or forests, they are sent thither to pick up the beach mast or acorns in the fall of the year. And that when they arrived at a proper age for fattening, they are either put into pens fitted up for the purpose, or sold to distillers, starchmakers, dairymen or cottagers. As to the treatment and feeding of *porkers* or *growing stores*, considerable diversity of sentiment prevails; some contending that they should be constantly confined in suitable pens or small enclosures, while others recommend their ranging more at large—where the object desired is merely to keep these animals in a thriving condition till the season of fattening arrives; the latter method may be pursued perhaps with some advantages. Still, in these cases, the range allowed should not be too extensive, and generally confined to yards in the immediate vicinity of the barn, or at the proper season, to pastures well set in clover.

A person who wore a suit of homespun clothes, stepped into a house in this city, on some business, where several ladies were assembled in the inner room. One of the company remarked, (in a low tone, though sufficiently loud to be overheard by the stranger,) that a countryman was waiting, and agreed to make some fun. The following dialogue ensued:

"You're from the country, I suppose?"

"Yes, I'm from the country."

"Well, what think you of the city?"

"Its got a tarnal sight of houses in it."

"I expect there are a great many ladies where you came from?"

"O yes, a wondy sight, jist for all the world like them there." Pointing to the ladies.

"And you are quite a beau among them, no doubt?"

"Yes, I beaus 'em to meeting, and about."

"May be the gentleman will take a glass of wine," said one of the company.

"Thank'e, don't care if I do."

"But you must drink a toast?"

"I eats toast, what aunt Debby makes, but as to drinkin' it, I never seed the like."

What was the surprise of the company to hear the stranger speak clearly as follows:—"Ladies and gentlemen, permit me to wish you health and happiness, with every other blessing this earth can afford, and I advise you to bear in mind that we are often deceived by appearances. You mistook me by my dress for a country booby, I, from the same cause thought these men to be gentlemen; the deception is mutual—I wish you a good evening."